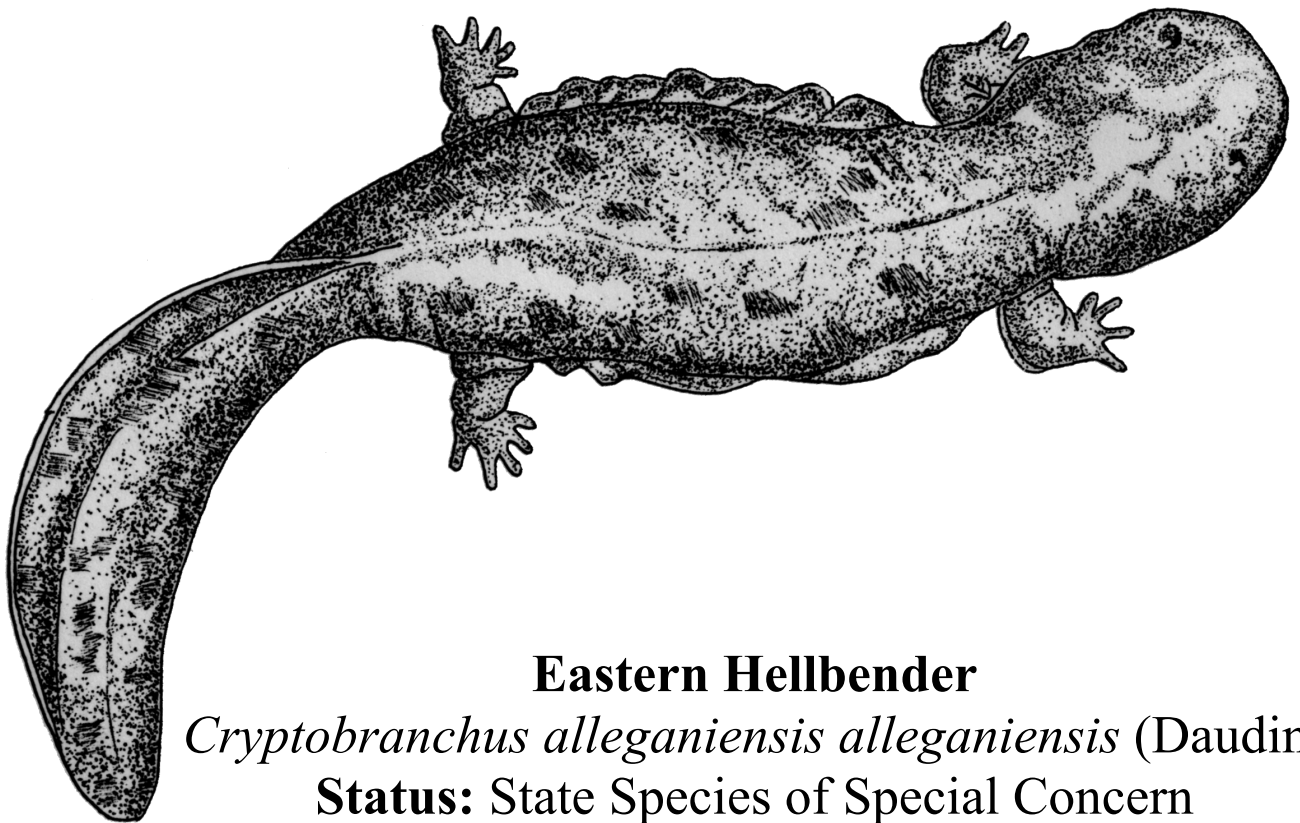


# Virginia's Wildlife

## Species Profile



### Eastern Hellbender

*Cryptobranchus alleganiensis alleganiensis* (Daudin)

**Status:** State Species of Special Concern

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# Virginia's Wildlife Species Profile: Eastern Hellbender

## Virginia Distribution: New River and Tennessee River drainages

### Characteristics

Growing to lengths of two feet, the aquatic hellbender is the largest species of salamander in North America. The hellbender has a flattened head and wrinkled, fleshy folds of skin along each side of the body. They have short legs for walking and a keeled tail for swimming. Their eyes are small and widely spaced across the head. Coloration ranges from yellowish-brown to black with numerous dark spots. The hellbender is covered in a protective slime that makes them difficult to handle. Young hellbenders have external gills that are lost when they reach 4-5 inches long. Hellbenders can live over 30 years.

### Feeding and Predation

Hellbenders feed primarily at night on crayfish but are also known to eat small fish, tadpoles, earthworms, and various insects. Most fish are scavenged, and larger fish are not consumed. Despite their very slimy skin, which discourages some predators, hellbenders occasionally are preyed upon by large fish, turtles, and snakes.

### Habitat and Distribution

Eastern hellbenders occur from southern New York southwestward through much of Pennsylvania, West Virginia, Ohio, Kentucky, and Tennessee; and in portions of the adjoining states. In Virginia, the eastern hellbender occurs only in the New River, and in the Powell, Clinch, and Holston rivers of the upper Tennessee River drainage. Hellbenders typically are found in clean, fast-flowing rivers and streams under large flat rocks, snags, and debris. The presence of hellbenders is a sign of good, clean water.

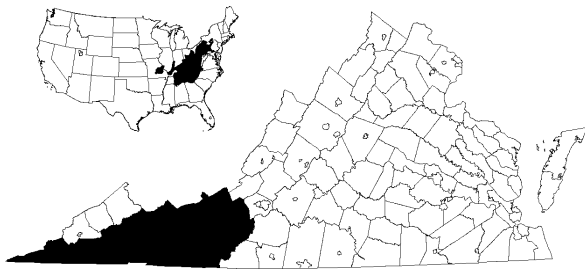


Figure 1. Eastern hellbender distribution in Virginia and the United States.

**FACT:** The family, Cryptobranchidae, to which the hellbender belongs, has representatives in Japan and China that grow to four feet in length.

### Reproduction

Eastern hellbenders mate in late summer and early fall. A female may lay 450–1,100 marble-sized eggs in a nest excavated by the male under a rock or log. The eggs are fertilized externally, and predation of eggs by adult hellbenders may be heavy. The hatchlings, measuring less than 1.5 inches in length, emerge from the nest after approximately 8 weeks of incubation.

### Threats

Most threats to hellbenders are related to water pollution or alteration of their aquatic environment. Pesticides, herbicides, and fertilizers jeopardize hellbenders and their eggs. Siltation resulting from clearing of streamside vegetation may smother eggs and deprive them of oxygen. Silt also eliminates prey habitat by filling spaces within the substrate. Removal of large, flat rocks from the stream bottom reduces availability of shelter and nest sites.

In some areas, hellbenders are routinely killed by anglers who accidentally catch them and fear they are venomous. In fact, hellbenders are not venomous, and will not bite if handled gently. People unwilling or unable to remove the hook should cut the line as close to the hook as possible, releasing the animal to resume its activities relatively unharmed. The hellbender is listed as a state species of special concern, meaning they may require additional protection if populations are documented to be in decline.

### Morphology: Lizard vs. Salamander

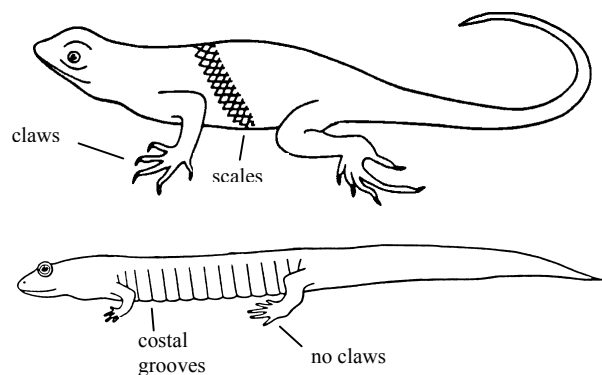


Figure 2. Lizards are scaly and have claws; salamanders have smooth skin and lack claws.

For additional information, consult *A Guide to Endangered and Threatened Species in Virginia* by K Terwilliger and JR Tate or *Salamanders of the United States and Canada* by JW Petranka.

**Citation:** Pinder MJ. 1999. Eastern hellbender: *Cryptobranchus alleganiensis alleganiensis* (Daudin). Virginia's wildlife species profile No. 20020.1 (Fernald RT, series editor). Richmond: Virginia Department of Game and Inland Fisheries. (The eastern hellbender illustration on the front cover is by the author.)